In the Claims:

1. (Previously Presented) A multi-protocol switch, comprising:

a plurality of egress line cards, wherein each of the plurality of egress line cards supports at least one egress connection;

a switching fabric operably coupled to the plurality of egress line cards; and

an ingress line card operably coupled to the switching fabric, wherein the ingress line card receives cells over a plurality of ingress connections, wherein each cell includes an ingress connection identifier, wherein the ingress line card determines a cell protocol for each cell based on the ingress connection identifier corresponding to the cell, wherein when the cell protocol is a first protocol, the ingress line card determines a forwarding decision based on an input connection identifier for the cell, wherein when the cell protocol is a second protocol, the ingress line card determines the forwarding decision based on a destination address for a packet to which the cell corresponds, wherein the ingress line card forwards at least a portion of the cell over the switching fabric to at least one of the plurality of egress line cards based on the forwarding decision.

2. (Original) The multi-protocol switch of claim 1, wherein the ingress line card includes a lookup table, wherein the lookup table stores protocol information for each ingress connection of the plurality of ingress connections, wherein the ingress line card references the lookup table to determine the cell protocol for each cell received.

3. (Original) The multi-protocol switch of claim 1, wherein when the cell protocol is the second protocol, the ingress switch at least partially assembles the packet to which the cell corresponds to produce a reassembled packet, wherein the ingress line card segments the reassembled packet to produce segmented cells, wherein forwarding cells included in the packet over the switching fabric is accomplished by forwarding the segmented cells over the switching fabric based on the forwarding decision determined based on the destination address for the packet.

4. (Original) The multi-protocol switch of claim 3, wherein when an egress line card of the plurality of egress line cards receives segmented cells, the egress line card reassembles the segmented cells to produce an egress packet, wherein the egress line card forwards the egress packet over at least one selected egress connection based on the destination address for the packet from which the segmented cells were derived.

5. (Original) The multi-protocol switch of claim 4, wherein forwarding the segmented cells over the switching fabric further comprises forwarding control information with the segmented cells, wherein the control information is used in the determination of the at least one selected egress connection.

6. (Original) The multi-protocol switch of claim 1 further comprises a plurality of transport interfaces between the ingress line card and the plurality of egress line cards, wherein each transport interface of the plurality of transport interfaces provides a route from the ingress line card across the switching fabric to a destination egress line card of the plurality of egress line cards, wherein determining a forwarding decision based on the destination address includes determining a selected transport interface of the plurality of transport interfaces.

7. (Original) The multi-protocol switch of claim 1 further comprises a transport interface group (TIG) between the ingress line card and a first egress line card of the plurality of egress line cards, wherein the TIG includes a plurality of transport interfaces, wherein each transport interface of the plurality of transport interfaces is is characterized by a plurality of transport parameters, wherein determining a forwarding decision based on the destination address includes selecting a transport interface of the plurality of transport interfaces based on a class of service associated with the cell.

8. (Original) The multi-protocol switch of claim 7, wherein cells of the first protocol are forwarded over the switching fabric to at least one of the plurality of egress line cards using virtual connections within the multi-protocol switch, wherein each of the virtual connections is characterized by a plurality of connection parameters, wherein the plurality of connection parameters for a selected virtual connection characterize a class of service provided across the virtual connection.

9. (Original) The multi-protocol switch of claim 8, wherein the ingress line card includes a packet-over-SONET (POS) input port that supports POS, wherein when an input packet is received

over the POS input port, the ingress line card segments the input packet to produce POS segmented cells, wherein the POS segmented cells are forwarded over at least one of the plurality of transport interfaces.

10. (Original) The multi-protocol switch of claim 8, wherein the first protocol is asynchronous transfer mode (ATM) and the second protocol is internet protocol (IP).

11. (Original) The multi-protocol switch of claim 10, wherein the cell protocol for each cell is one of ATM, IP, and multi-protocol label switching (MPLS), wherein when the cell protocol is MPLS, the ingress line card determines the forwarding decision based on a label included for an MPLS packet to which the cell corresponds.

12. (Original) The multi-protocol switch of claim 8, wherein transport interfaces between the input line card and a particular egress line card of the plurality of egress line cards are grouped into a transport interface group, wherein the transport interfaces within each transport interface group provide different classes of service.

13. (Original) The multi-protocol switch of claim 1, wherein the ingress line card forwards at least a portion of the cells received corresponding to the second protocol to a multicast set of egress line cards of the plurality of line cards, wherein cells forwarded to a multicast set of egress line cards are multicast cells corresponding to a multicast packet.

14. (Original) The multi-protocol switch of claim 13, wherein the multicast cells are identified by the ingress line card based on a multicast connection identifier.

15. (Original) The multi-protocol switch of claim 14, wherein each multicast cell includes a bit map that indicates which egress line cards of the plurality of egress line cards are included in the multicast set of egress line cards.

16. (Original) The multi-protocol switch of claim 14, wherein the egress line cards included in the multicast set of egress line cards is determined by the switching fabric based on the multicast connection identifier.

17. (Original) A method for routing cell traffic using a multi-protocol switch, comprising:

receiving a cell over an ingress connection, wherein the cell includes an ingress connection identifier;

determining a cell protocol for the cell based on the ingress connection identifier;

when the cell protocol for the cell is a first protocol, routing the cell through the multi-protocol switch based on the ingress connection identifier; and

when the cell protocol for the cell is a second protocol, routing the cell through the multi-protocol switch based on a destination address for a packet to which the cell corresponds.

18. (Original) The method of claim 17, wherein the first protocol is asynchronous transfer mode (ATM) and the second protocol is internet protocol (IP).

19. (Original) The method of claim 18, wherein determining the cell protocol further comprises referencing a lookup table using the ingress connection identifier to determine the cell protocol for the cell, wherein the lookup table stores a protocol indication for a plurality of ingress connection identifiers, wherein the ingress connection identifier for the cell is included in the plurality of ingress connection identifiers.

20. (Original) The method of claim 19, wherein routing the cell through the multi-protocol switch based on the destination address further comprises:

storing the cell with additional cells included in the packet to which the cell corresponds to produce a reassembled packet;

determining the destination address for the packet from at least one cell included in the packet;

segmenting the reassembled packet to produce segmentation cells; and

forwarding the segmentation cells through the multi-protocol switch based on the destination address.

21. (Original) The method of claim 20 further comprises:

determining an egress index for the reassembled packet based on the destination address; and

using the egress index to forward at least a portion of the reassembled packet to at least one egress connection.

22. (Original) The method of claim 17, wherein forwarding the cell through the multi-protocol switch further comprises forwarding the cell across a switching fabric to at least one selected egress line card of a plurality of egress line cards.

23. (Currently amended) The method of claim 22, wherein when the cell protocol is the first protocol, forwarding the cell across the switching fabric further comprises:

selecting a ~~selected~~ virtual connection of a plurality of virtual connections across the switching fabric to the selected egress line card; and

forwarding the cell using the ~~selected~~ virtual connection.

24. (Original) The method of claim 23, wherein each of the plurality of virtual connections is characterized by a set of service parameters.

25. (Original) The method of claim 22, wherein when the cell protocol is the second protocol, forwarding the cell across the switching fabric further comprises:

selecting a selected transport interface of a plurality of transport interfaces across the switching fabric to the selected egress line card; and

forwarding the cell using the selected transport interface.

26. (Original) The method of claim 25, wherein each transport interface of the plurality of transport interfaces is characterized by a set of service parameters.

27. (Original) The method of claim 22, wherein forwarding the cell across a switching fabric further comprises multicasting the cell to a plurality of egress connections included on at least one of the plurality of egress line cards.

28. (Original) A multi-protocol switch that supports at least asynchronous transfer mode (ATM) and internet protocol data (IP), comprising:

a plurality of egress line cards, wherein each of the plurality of egress line cards supports at least one egress connection;

a switching fabric operably coupled to the plurality of egress line cards; and

an ingress line card operably coupled to the switching fabric, wherein the ingress line card receives cells over a plurality of ingress connections, wherein each cell includes an ingress connection identifier, wherein the ingress line card determines whether each cell corresponds to ATM or IP based on the ingress connection identifier for the cell,

wherein when the cell corresponds to ATM, the ingress line card forwards the cell across the switching fabric to at least one egress line card of the egress line cards based on the ingress connection identifier for the cell,

wherein when the cell corresponds to IP, the ingress line card:

at least partially reassembles a packet to which the cell corresponds to produce a reassembled packet;

determines a destination address to which the packet corresponds;

segments the reassembled packet to produce segmented cells; and

forwards the segmented cells across the switching fabric to at least one egress line card of the plurality of egress line cards based on the destination address.

29. (Original) The multi-protocol switch of claim 28, the ingress line card forwards the segmented cells across the switching fabric using a selected transport interface that is selected based on the destination address and a class of service for the packet.

30. (Original) The multi-protocol switch of claim 29, wherein at least one of the segmented cells of the packet includes an egress index, wherein the egress index is used by the at least one egress line card to determine an egress connection over which to forward the packet after reassembly of the segmented cells in the at least one egress line card.

31. (Original) A multi-protocol switch that supports cell based data and packet based data, comprising:

an egress line card that includes a first service interface, wherein the first service interface supports at least one egress connection;

a switching fabric operably coupled to the egress line card; and

an ingress line card operably coupled to the switching fabric, wherein the ingress line card includes a second service interface, wherein a transport interface group provides a plurality of transport interfaces that couple the second service interface and the first service interface via the switching fabric, wherein each transport interface of the plurality of transport interfaces is characterized by a set of transport parameters,

wherein the ingress line card receives cells corresponding to cell based data over a first ingress connection and forwards the cells across the switching fabric to the egress line card based on an ingress connection identifier included in each cell,

wherein the ingress line card receives packets over a second ingress connection, wherein the ingress line card segments each packet received to produce segmented cells and forwards the segmented cells to the egress line card over a selected transport interface of the plurality of transport interfaces, wherein the selected transport interface is determined based on a class of service associated with the packet.

32. (Currently amended) The multi-protocol switch of claim 31, wherein the ingress line card selects the selected transport interface by selecting the transport interface group based on a destination address included in the packet and by selecting the selected transport interface from the plurality of transport interfaces using the class of service associated with the packet.

33. (Original) The multi-protocol switch of claim 32, wherein the second service interface supports receipt of packet data over SONET (POS) interfaces.